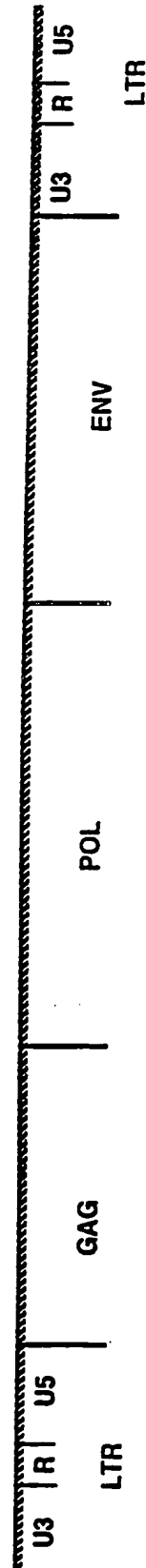
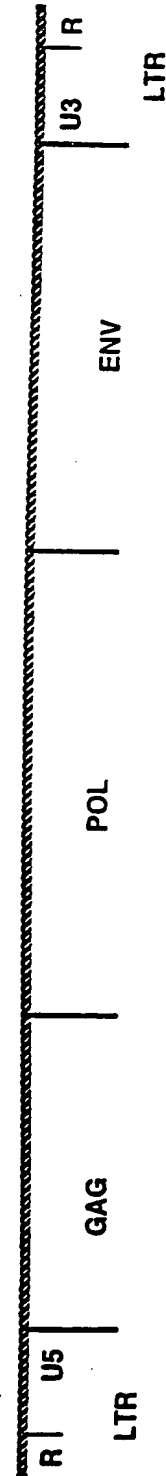


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FIG 1

PROVIRAL DNA



GENOMIC RNA (VIRION)



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## FIG 2

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GCTTATAGAA	GGACCCCTAG	TATGGGGTAA	TCCCCTCTGG	GAAACCAAGC	50
A Y R R	T P S	M G .	S P L G	N Q A	
L I E	G P L V	W G N	P L W	E T K P	
L . K	D P .	Y G V I	P S G	K P S	
CCCAGTACTC	AGCAGGAAAA	ATAGAATAGG	AAACCTCACA	AGGACATACT	100
P V L	S R K N	R I G	N L T	R T Y F	
Q Y S	A G K	I E .	E T S Q	G H T	
P S T Q	Q E K	. N R	K P H K	D I L	
TTCCTCCCT	CCAGATGGCT	AGCCACTGAG	GAAGGAAAAA	TACTTTTACC	150
P P L	Q M A	S H .	G R K N	T F T	
F L P S	R W L	A T E	E G K I	L S P	
S S P	P D G .	P L R	K E K	Y F H L	
TGCAGCTAAC	CAACAGAAAT	TACTTAAAAC	CCTTCACCAA	ACCTTCCACT	200
C S .	P T E I	T . N	P S P N	L P L	
A A N	Q Q K L	L K T	L H Q	T F H L	
Q L T	N R N	Y L K P	F T K	P S T	
TAGGCATIGA	TAGCACCCAT	CAGATGGCCA	AATTATTATT	TACTGGACCA	250
R H .	. H P S	D G Q	I I I	Y W T R	
G I D	S T H	Q M A K	L L F	T G P	
. A L I	A P I	R W P	N Y Y L	L D Q	
GGCCTTTTCA	AAACTATCAA	GAAGATAGTC	AGGGGCTGTG	AAGTGTGCCA	300
P F Q	N Y Q	E D S Q	G L .	S V P	
G L F K	T I K	K I V	R G C E	V C Q	
A F S	K L S R	R . S	G A V	K C A K	
AAGAAATAAT					310
K K .					
R N N					
E I					

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~~FIG 2 (continued)~~  
 FIG 3A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CCCTGTATCT	TTAACCTCCT	TGTTAAGTTT	GTCTCTTCCA	GAATCAAAC	50
P C I F	N L L	V K F	V S S R	I K T	
P V S	L T S L	L S L	S L P	E S K L	
L Y L	. P P	C . V C	L F Q	N Q N	
TGTAAACTA	CAAATTGTTT	TTCAAATGGA	GCACCAGATG	GAGTCCATGA	100
V K L	Q I V L	Q M E	H Q M	E S M T	
. N Y	K L F	F K W S	T R W	S P .	
C K T T	N C S	S N G	A P D G	V H D	
CTAAGATCCA	CCGTGGACCC	CTGGACCGGC	CTGCTAGCCC	ATGCTCCGAT	150
K I H	R G P	L D R P	A S P	C S D	
L R S T	V D P	W T G	L L A H	A P M	
. D P	P W T P	G P A C	. P	M L R C	
GTTAATGACA	TTGAAGGCAC	CCCTCCCGAG	GAAATCTCAA	CTGCACAACC	200
V N D I	E G T	P P E	E I S T	A Q P	
L M T	L K A P	L P R	K S Q	L H N P	
. . H	. R H	P S R G	N L N	C T T	
OCTACTATGC	CCCAATTTCAG	CGGGAAGCAG	TTAGAGCGGT	CATCAGCCAA	250
L L C	P N S A	G S S	. S G	H Q P T	
Y Y A	P I Q	R E A V	R A V	I S Q	
P T M P	Q F S	G K Q	L E R S	S A N	
CCCTCCCAAC	AGCACTTGGG	TTTTCCTGTT	GAGAGGGGGG	ACTGAGAGAC	300
S P T	A L G	F S C	. E G G	L R D	
P P Q Q	H L G	F P V	E R G D	. E T	
L P N	S T W V	F L L	R G G	T E R Q	
AGGACTAGCT	GGATTTCCTA	GGCCAACGAA	GAATCCCTAA	GCCTAGCTGG	350
R T S W	I S .	A N E	E S L S	L A G	
G L A	G F P R	P T K	N P .	A . L G	
D . L	D F L	G Q R R	I P K	P S W	

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FIG 3B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GAAGGTGACT	GCATCCACCT	CTAAACATGG	GGCTTGCAAC	TTAGCTCACA	400
K V T	A S T S	K H G	A C N	L A H T	
R . L	H P P	L N M G	L A T	. L T	
E G D C	I H L	. T W	G L Q L	S S H	
CCCGACCAAT	CAGAGAGCTC	ACTAAAATGC	TAATTAGGCA	AAAATAGGAG	450
R P I	R E L	T K M L	I R Q	K . E	
P D Q S	E S S	L K C	. L G K	N R R	
P T N	Q R A H	. N A N	. A K	I G G	
GTAAAGAAAT	AGCCAATCAT	CTATTGCCTG	AGAGCACAGC	GGGAGGGACA	500
V K K .	P I I	Y C L	R A Q R	E G Q	
. R N	S Q S S	I A .	E H S	G R D K	
K E I	A N H	L L P E	S T A	G G T	
AGGATCGGGA	TATAAACCCA	GGCATTGAG	COGGCAACGG	CAACCCCTT	550
G S G	Y K P R	H S S	R Q R	Q P P L	
D R D	I N P	G I R A	G N G	N P L	
R I G I	. T Q	A F E	P A T A	T P F	
TGGGTCCCTT	CCCTTGTAT	GGGGCTCTG	TTTCACTCT	ATTCACTCT	600
G P L	P L Y	G R S V	F T L	F H S	
W V P S	L C M	G A L	F S L Y	F T L	
G S P	P F V W	A L C	F H S	I S L Y	
ATTAAATCTT	GCAACTGAA	AAAAAAAAA	AAAAA		635
I K S C	N . K	K K K	K		
L N L	A T E K	K K K	K		
. I L	Q L K	K K K	K		

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## FIG 4A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGGCCCTCC	CTTATCATA	CTTTCTCTTT	ACTGTTCTCT	TACCCCTTT	50
M A L P	Y H T	F L F	T V L L	P P F	
W P S	L I I L	F S L	L F S	Y P L S	
G P P	L S Y	F S L Y	C S L	T P F	
CGCTCTCACT	GCACCCCTC	CATGCTGCTG	TACAACCAGT	AGCTCCCTTT	100
A L T	A P P P	C C C	T T S	S S P Y	
L S L	H P L	H A A V	Q P V	A P L	
R S H C	T P S	M L L	Y N Q	L P L	
ACCAAGAGTT	TCTATGAAGA	ACCGGGCTTC	CTGGAAATAT	TGATGCCCCA	150
Q E F	L . R	T R L P	G N I	D A P	
T K S F	Y E E	R G F	L E I L	M P H	
P R V	S M K N	A A S	W K Y	C P I	
TCATATAGGA	GTTTATCTAA	GGGAAACTCC	ACCTTCACTG	CCCACACCCA	200
S Y R S	L S K	G N S	T F T A	H T H	
H I G	V Y L R	E T P	P S L	P T P I	
I . E	F I .	G K L H	L H C	P H P	
TATGCCCCGC	AACIGCTATA	ACTCTGCCAC	TCTTTGCATG	CATGCAAATA	250
M P R	N C Y N	S A T	L C M	H A N T	
C P A	T A I	T L P L	F A C	M Q I	
Y A P Q	L L .	L C H	S L H A	C K Y	
CTCATTATTG	GACAGGGAAA	ATGATTAAATC	CTAGTTGTCC	TGGAGGACTT	300
H Y W	T G K	M I N P	S C P	G G L	
L I I G	Q G K	. L I	L V V L	E D L	
S L L	D R E N	D . S	. L S	W R T W	
GGAGCCACTG	TCTGTTGGAC	TTACTTCACC	CATACCAGTA	TGTTCTGATGG	350
G A T V	C W T	Y F T	H T S M	S D G	
E P L	S V G L	T S P	I P V	C L M G	
S H C	L L D	L L H P	Y Q Y	V . W	

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GGGTGGAATT	CAAGGTCAGG	CAAGAGAAAA	ACAAGTAAAG	GAAGCAATCT	400
G G I	Q G Q A	R E K	Q V K	E A I S	
V E F	K V R	Q E K N	K * R	K Q S	
G W N S	R S G	K R K	T S K G	S N L	
CCCAACTGAC	CCGGGGACAT	AGCACCCCTA	GCCCCTACAA	AGGACTAGTT	450
Q L T	R G H	S T P S	P Y K	G L V	
P N * P	G D I	A P L	A P T K	D * F	
P T D	P G T *	H P *	P L Q	R T S S	
CTCTCAAAAC	TACATGAAAC	CCTCCGTACC	CATACTCGCC	TGGTGAGCCT	500
L S K L	H E T	L R T	H T R L	V S L	
S Q N	Y M K P	S V P	I L A	W * A Y	
L K T	T * N	P P Y P	Y S P	G E P	
ATTTAATACC	ACCCTCACTC	GGCTCCATGA	GGTCTCAGCC	CAAAACCCTA	550
F N T	T L T R	L H E	V S A	Q N P T	
L I P	P S L	G S M R	S Q P	K T L	
I * Y H	P H S	A P *	G L S P	K P Y	
CTAACTGTTG	GATGTGCCTC	CCCCTGCACT	TCAGGCCATA	CATTTCAATC	600
N C W	M C L	P L H F	R P Y	I S I	
L T V G	C A S	P C T	S G H T	F Q S	
* L L	D V P P	P A L	Q A I	H F N P	
CCTGTTCCTG	AACAATGGAA	CAACTTCAGC	ACAGAAATAA	ACACCACTTC	650
P V P E	Q W N	N F S	T E I N	T T S	
L F L	N N G T	T S A	Q K *	T P L P	
C S *	T M E	Q L Q H	R N K	H H F	
CGTTTTAGTA	GGACCTCTTG	TTTCCAATCT	GGAAATAACC	CATACCTCAA	700
V L V	G P L	V S N L	E I T	H T S N	
F * *	D L L	F P I W	K * P	I P Q	
R F S R	T S C	F Q S	G N N P	Y L K	

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~~FIG 4~~ (continued)  
FIG 4C

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ACCTCACCTG	TGTAAAATTT	AGCAATACTA	TAGACACAAC	CAGCTCCCAA	750
L T C	V K F	S N T	I D T	T S S Q	
T S P V	. N L	A I L	. T Q P	A P N	
P H L	C K I	. Q Y Y	R H N	Q L P M	
TGCATCAGGT	GGGTAAACACC	TCCACACAGA	ATAGTCTGCC	TACCCCTCAGG	800
C I R W	V T P	P T R	I V C L	P S G	
A S G	G . H L	P H E	. S A	Y P Q E	
H Q V	G N T	S H T N	S L P	T L R	
AATATTTTTT	GTCGTGGTAA	CCTCAGCCTA	TCATTGTTTG	AATGGCTCTT	850
I F F	V C G T	S A Y	H C L	N G S S	
Y F L	S V V	P Q P	I I V	. M A L	
N I F C	L W Y	L S L	S L F E	W L F	
CAGAATCTAT	GTCCTTCTCTC	TCATTCTTAG	TGCCCCCTAT	GACCATCTAC	900
E S M	C F L	S F L V	P P M	T I Y	
Q N L C	A S S	H S .	C P L .	P S T	
R I Y	V L P L	I L S	A P Y	D H L H	
ACTGAACAAG	ATTATACAA	TCATGTGGTAA	CCTAAGCCCC	ACAACAAAAG	950
T E Q D	L Y N	H V V	P K P H	N K R	
L N K	I Y T I	M S Y	L S P	T T K E	
. T R	F I Q	S C R T	. A P	Q Q K	
AGTACCCATT	CTTCTTTTG	TTATCAGAGC	AGGAGTGCTA	GCCAGACTAG	1000
V P I	L P F V	I R A	G V L	G R L G	
Y P F	F L L	L S E Q	E C .	A D .	
S T H S	S F C	Y Q S	R S A R	Q T R	
GIACCTGGCAT	TGGCAGTATC	ACAACCTCTA	CTCAGTTCTA	CTACAAACTA	1050
T G I	G S I	T T S T	Q F Y	Y K L	
V L A L	A V S	Q P L	L S S T	T N Y	
Y W H	W Q Y H	N L Y	S V L	L Q T I	

~~FIG 4 (continued)~~

## FIG 4D

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TCICAAGAAA	TAAATGGTGA	CATGGAACAG	GTCACITGACT	CCCTGGTTCAC	1100
S Q E I	N G D M	E Q V T	D S L V	T	
L K K	. M V T	W N R	S L T	P W S P	
S R N	K W .	H G T G	H . L	P G H	
CTTGCAAGAT	CAACTTAACT	CCCTAGCAGC	AGTAGTCCTT	CAAAATCGAA	1150
L Q D	Q L N S	L A A	V V L	Q N R R	
C K I	N L T P	. Q Q	. S F	K I E	
L A R S	T . L	P S S	S S P S	K S K	
GACCTTTAGA	CTTGCTAACC	GCCAAAAGAG	GGGGAACCTG	TTTATTTTGA	1200
A L D	L L T A	K R G	G T C	L F L	
E L .	T C . P	P K E	G E P V	Y F .	
S F R	L A N R	Q K R	G N L	F I F R	
GGAGAAGAAC	GCTGTTATTA	TGTTAATCAA	TCCAGAATTG	TCACTGAGAA	1250
G E E R	C Y Y	V N Q	S R I V	T E K	
E K N	A V I M	L I N	P E L	S L R K	
R R T	L L L C	. S I	Q N C	H . E	
AGTTAAAGAA	ATTGAGATC	GAATACAATG	TAGACCAGAG	GACCTTCAAA	1300
V K E	I R D R	I Q C	R A E	E L Q N	
L K K	F E I	E Y N V	E Q R	S F K	
S . R N	S R S	N T M	. S R G	A S K	
ACACCGAACG	CTGGGGCCTC	CTCAGCCAAT	GGATGCCCTG	GGTTCTCCCC	1350
T E R	W G L	L S Q W	M P W	V L P	
T P N A	G A S	S A N	G C P G	F S P	
H R T	L G P P	Q P M	D A L	G S P L	
TTCTTAGGAC	CTCTAGCAGC	TCTAATATTG	TTACTCCTCT	TTGGACCTTG	1400
F L G P	L A A	L I L	L L L F	G P C	
S . D	L . Q L	. Y C	Y S S	L D P V	
L R T	S S S	S N I V	T P L	W T L	



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~~8/32~~~~FIG 4~~ (continued)

FIG 4E

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10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TATCTTTAAC	CTCCTTGTTA	AGTTTGICTC	TTCAGAATT	GAAGCTGTAA	1450
I F N	L L V K	F V S	S R I	E A V K	
S L T	S L L	S L S L	P E L	K L .	
Y L .	P P C .	V C L	F Q N .	S C K	

AGCTACAGAT	GGTCTTACAA	ATGGAACCCC	A	1481
L Q M	V L Q	M E P		
S Y R W	S Y K	W N P		
A T D	G L T N	G T P		

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FIG 5 A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TCAAAATCGA	AGAGCTTTAG	ACTTGCTAAC	CGCCAAAAGA	GGGGGAACCT	50
S K S K	S F R	L A N	R Q K R	G N L	
Q N R	R A L D	L L T	A K R	G G T C	
K I E	E L .	T C .	P P K E	G E P	
GTTTATTTTT	AGGGGAAGAA	TGCTGTTAGT	ATGTAAATCA	ATCTGGAATC	100
F I F	R G R M	L L V C .	S I W N H		
L F L	G E E	C C .	Y V N Q	S G I	
V Y F .	G K N	A V S	M L I N	L E S	
ATTACTGAGA	AAGTTAAAGA	AATTTGAGAT	CGAATATAAT	GTACAGCAGA	150
Y .	E S .	R N L R S	N I M .	S R	
I T E K	V K E	I .	D R I .	C R A E	
L L R	K L K K	F E I	E Y N	V E Q R	
GGACCTTCAA	AACACTGCAC	CCTGGGGGCT	CCTCAGCCAA	TGGATGGGCT	200
G P S K	H C T	L G P	P Q P M	D A L	
D L Q	N T A P	W G L	L S Q	W M P W	
T F K	T L H	P G A S	S A N	G C P	
GGACTCTCC	CTTCTTAGGA	CCTCTAGCAG	CTATAATATT	TTTACTCTC	250
D S P	L L R T	S S S	Y N I	F T P L	
T L P	F L G	P L A A	I I F	L L L	
G L S P	S .	D L .	Q L .	Y F Y S S	
TTTGGAGGCT	GTATCTTCAA	CTTCTTGTT	AAGTTTGICT	CTTCCAGAT	300
W T L	Y L Q	L P C .	V C L	F Q N	
F G P C	I F N	F L V	K F V S	S R I	
L D P	V S S T	S L L	S L S	L P E L	
TGAAGCTGTA	AAGCTACAAA	TAGTTCTTCA	AATGGAACCC	CAGATGCAGT	350
. S C K	A T N	S S S	N G T P	D A V	
E A V	K L Q I	V L Q	M E P	Q M Q S	
K L .	S Y K .	F F K	W N P	R C S	

~~FIG 5 (continued)~~  
FIG 5B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CCATGACTAA	AATCTACCGT	GGACCCCTGG	ACCGGCCTGC	TAGACTATGC	400
H D .	N L P W	T P G	P A C	. T M L	
M T K	I Y R	G P L D	R P A	R L C	
P . L K	S T V	D P W	T G L L	D Y A	
TCTGATGTTA	ATGACATTGA	AGTCACCCCT	CCCGAGGAAA	TCTCAACTGC	450
. C .	. H .	S H P S	R G N	L N C	
S D V N	D I E	V T P	P E E I	S T A	
L M L	M T L K	S P L	P R K	S Q L H	
ACAACCCCTA	CTACACTCCA	ATTCAGTAGG	AAGCAGTTAG	AGCAGTTGTC	500
T T P T	T L Q	F S R	K Q L E	Q L S	
Q P L	L H S N	S V G	S S .	S S C Q	
N P Y	Y T P	I Q .	E A V R	A V V	
AGCCAACCTC	CCCAACAGTA	CTTGGGTTTT	CCTGTTGAGA	GGTGGACTG	550
A N L	P N S T	W V F	L L R	G W T E	
P T S	P T V	L G F S	C .	E G G L	
S Q P P	Q Q Y	L G F	P V E R	V D .	
AGAGACAGGA	CTAGCTGGAT	TTCCTAGGCT	GACTAAGAAT	CCCAAGCCT	600
R Q D	. L D	F L G .	L R I	P K P	
R D R T	S W I	S . A	D . E S	X S L	
E T G	L A G F	P R L	T K N	P X A X	
ANCTGGGAAG	GTGACCGCAT	CCATCTTTAA	ACATGGGGCT	TGCAACTTAG	650
X W E G	D R I	H L .	T W G L	Q L S	
X G K	V T A S	I F K	H G A	C N L A	
L G R	. P H	P S L N	M G L	A T .	
CTCACACCCG	ACCAATCAGA	GAGCTCACTA	AAATGCTAAT	CAGGCAAAAA	700
S H P	T N Q R	A H .	N A N	Q A K T	
H T R	P I R	E L T K	M L I	R Q K	
L T P D	Q S E	S S L	K C .	S G K N	

~~FIG 5 (continued)~~  
FIG 5C.

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CAGGAGGTAA	AGCAATAGCC	AATCATCTAT	TGCTGAGAG	CACAGCGGGA	750
G G K	A I A	N H L L	P E S	T A G	
Q E V K	Q . P	I I Y	C L R A	Q R E	
R R .	S N S Q	S S I	A . E	H S G K	
AGGACAAGGA	TTGGGATATA	AACTCAGGCA	TTCAAGCCAG	CAACAGCAAC	800
R T R I	G I .	T Q A	F K P A	T A T	
G Q G	L G Y K	L R H	S S Q	Q Q Q P	
D K D	W D I	N S G I	Q A S	N S N	
CCCCTTGGG	TCCCCGCCA	TTGATGGGA	GCTCTGTTT	CACTCTATT	850
P F G	S P P I	V W E	L C F	H S I S	
P L G	P L P	L Y G S	S V F	T L F	
P L W V	P S H	C M G	A L F S	L Y F	
CACCTATTA	AATCATGCAA	CTGCACCTT	CTGGTCGGTG	TTTTTATGG	900
L Y .	I M Q	L H S S	G P C	F L W	
H S I K	S C N	C T L	L V R V	F Y G	
T L L	N H A T	A L F	W S V	F F M A	
CTCAAGCTGA	GCTTTTGTC	GCCATCCACC	ACTGCTGTTT	GCCACCGTCA	950
L K L S	F C S	P S T	T A V C	H R H	
S S .	A F V R	H P P	L L F	A T V T	
Q A E	L L F	A I H H	C C L	P P S	
CAGACCGCT	GCTGACTTCC	ATCCCTTTGG	ATCCAGCAGA	GIGTCCACTG	1000
R P A	A D F H	P F G	S S R	V S T V	
D P L	L T S	I P L D	P A E	C P L	
Q T R C	. L P	S L W	I Q Q S	V H C	
TGCTCTGAT	CCAGCGAGGT	AOCCATTGOC	ACTCCCGATC	AGGCTAAAGG	1050
L L I	Q R G	T H C H	S R S	G . R	
C S .	S S E V	P I A	T P D Q	A K G	
A P D	P A R Y	P L P	L P I	R L K A	

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CTTGCCATTG	TTCTGTCATG	GCTAAGTGCC	TGGGTTTGIC	CTAATAGAAC	1100
L A I V	P A W	L S A	W V C P	N R T	
L P L	F L H G	. V P	G F V	L I E L	
C H C	S C M	A K C L	G L S	. . N	
TGAACACTGG	TCACTGGGTT	CCATGGTCT	CTTCCATGAC	CCACGGCTTC	1150
E H W	S L G S	M V L	F H D	P R L L	
N T G	H W V	P W F S	S M T	H G F	
. T L V	T G F	H G S	L P .	P T A S	
TAATAGAGCT	ATAACACTCA	CCGCATGGCC	CAAGATTCCA	TTCTTGGTGA	1200
I E L	. H S	P H G P	R F H	S L V	
. . S Y	N T H	R M A	Q D S I	P W Y	
N R A	I T L T	A W P	K I P	F L G I	
TCGTGAGGC	CAAGAACCCC	AGGTCAGAGA	ANGTGAGGCT	TGCCACCATT	1250
S V R P	R T P	G Q R	X . G L	P P F	
L . G	Q E P Q	V R E	X E A	C H H L	
C E A	K N P	R S E X	V R L	A T I	
TGGGAAGTGG	CCCACTGCCA	TTTGTGGTAC	GGCCACCAC	CATCTTGGGA	1300
G K W	P T A I	L V A	A H H	H L G S	
G S G	P L P	F W .	R P T T	I L G	
W E V A	H C H	F G S	G P P P	S W E	
GCTGTGGGAG	CAAGGATCCC	CCAGTAACA			1329
C G S	K D P	P V T			
A V G A	R I P	Q .			
L W E	Q G S P	S N			

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CCTAGAACGT	ATTCTGGAGA	ATTGGGACCA	ATGTGACACT	CAGACGCTAA	50
P R T Y	S G E L	G P M .	H S .	D A K	
L E R	I L E N	W D Q	C D T	Q T L R	
. N V	F W R	I G T N	V T L	R R .	
GAAAGAAAG	ATTTATATTC	TTCTGCAGTA	CCGCGTGGCC	ACAATATCCT	100
K E T	I Y I L	L Q Y	R L A	T I S S	
K K R	F I F	F C S T	A W P	Q Y P	
E R N D	L Y S	S A V	P P G H	N I L	
CTTCAAGGA	GAGAAACCTG	GCTTCTGAG	GGAAGTATAA	ATTATAACAT	150
S R E	R N L	A S .	G K Y K	L . H	
L Q G R	E T W	L P E	G S I N	Y N I	
F K G	E K P G	F L R	E V .	I I T S	
CATCTTACAG	CTAGACCTCT	TCTGTAGAAA	GGAGGGCAAA	TGGAGTGAAG	200
H L T A	R P L L	. K	G G Q M	E . S	
I L Q	L D L F	C R K	E G K	W S E V	
S Y S	. T S	S V E R	R A N	G V K	
TGCCATATGT	GCAAACTTTC	TTTTCAATTAA	GAGACAATC	ACAATTATGT	250
A I C	A N F L	F I K	R Q L	T I M .	
P Y V	Q T F	F S L R	D N S	Q L C	
C H M C	K L S	F H .	E T T H	N Y V	
AAAAAGTGTG	GTTTATGCCC	TACAGGAAGC	CCTCAGAGTC	CACCTCCCTA	300
K V W	F M P	Y R K P	S E S	T S L	
K K C G	L C P	T G S	P Q S P	P P Y	
K S V	V Y A L	Q E A	L R V	H L P T	
CCCCAGGTC	CCCTCCCCGA	CTCCTTCTC	AACTAATAAG	GACCCCCCTT	350
P Q R P	L P D	S F L N .	. G	P P F	
P S V	P S P T	P S S	T N K	D P P L	
P A S	P P R	L L P Q	L I R	T P L	
TAACCCAAAC	GGTCCAAAG	GAGATAGACA	AAGGGGTAAG	CAATGAACCA	400
N P N	G P K G	D R Q	R G K	Q . T K	
T Q T	V Q K	E I D K	G V N	N E P	
. P K R	S K R	R .	T K G .	T M N Q	
AAGAGTGGCA	ATATTCCCCG	ATTATGCCCC	CTCCAGGCG	TGAGAGGAGG	450
E C Q	Y S P	I M P P	P S S	E R R	
K S A N	I P R	L C P	L Q A V	R G G	
R V P	I F P D	Y A P	S K Q	. E E E	
AGAATTGGGC	CCAGCCAGAG	TGCCGTGACC	TTTTTCTCTC	TCAGACTTAA	500
R I R P	S Q S	A C T	F F S L	R L K	
E F G	P A R V	P V P	F S L	S D L K	
N S A	Q P E	C L Y L	F L S	Q T .	

~~FIG 6 (continued)~~  
FIG 6B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
AGCAAATTAA	AATAGACCTA	GGTAAATTCT	CAGATAACCC	TGACGGCTAT	550
A N .	N R P R .	I L R .	P .	R L Y	
Q I K	I D L	G K F S	D N P	D G Y	
S K L K .	T .	V N S	Q I T L	T A I	
ATTGATGTTT	TACAAGGGTT	AGGACAATCC	TTTGATCTGA	CATGGAGAGA	600
. C F	T R V	R T I L .	S D M E R		
I D V L	Q G L	G Q S	F D L T	W R D	
L M F	Y K G .	D N P L I .	H G E I		
TATAATGTTA	CTACTAAATC	AGACACTAAC	CCCAAATGAG	AGAAGTGCCG	650
Y N V T	T K S	D T N	P K .	E K C R	
I M L	L L N Q	T L T	P N E	R S A A	
. C Y Y .	I R H .	P Q M R	E V P		
CTGTAACCTG	AGCCCGAGAG	TTTGGCGATC	TTTGGTATCT	CAGTCAGGCC	700
C N C	S P R V	W R S	L V S	Q S G Q	
V T A	A R E	F G D L	W Y L	S Q A	
L .	L Q P E S	L A I	F G I S	V R P	
AACAATAGGA	TGACAACAGA	GGAAAGAACA	ACTCCACAG	GCCAGCAGCC	750
Q .	D D N R	G K N N	S H R	P A G	
N N R M	T T E	E R T	T P T G	Q Q A	
T I G .	Q Q R	K E Q	L P Q	A S R Q	
AGTTCCCACT	GTAGACCTTC	ATTGGGACAC	AGAATCAGAA	CATGGAGATT	800
S S Q C	R P S	L G H	R I R T	W R L	
V P S	V D P H	W D T	E S E	H G D W	
F P V .	T L I G T Q	N Q N	M E I		
GGTGGCACA	ACATTIGCTA	ACTTGGGTGC	TAGAAGGACT	GAGGAAACT	850
V P Q	T F A N	L R A	R R T	E E N .	
C H K	H L L	T C V L	E G L	R K T	
G A T N	I C .	L A C .	K D .	G K L	
AGGAGAAC	CTATGAATTA	CTCAATGATG	TCCACTATAA	CACAGGGAAA	900
E E A	Y E L	L N D V	H Y N	T G K	
R K K P	M N Y	S M M	S T I T	Q G K	
G R S L .	I T Q .	C P L .	H R E R		
GGAGAAAAT	CTTACTGCTT	TTCGGACAG	ACTAAGGGAG	GCATTGAGCA	950
G R K S	Y C F	S G Q	T K G G	I E E	
E E N	L T A F	L D R	L R E	A L R K	
K K I	L L L	F W T D .	G R H .	G	
AGCATACCTC	CCGTGACCT	GACTCTATTG	AAGGCCAACT	AATCTTAAAG	1000
A Y L	P V T .	L Y .	R P T	N L K G	
H T S	L S P	D S I E	G Q L	I L K	
S I P P	C H L	T L L	K A N .	S . R	

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FIG 6 (continued)

FIG 6C

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GATAAGTTTA	TCACTCAGTC	AGCTGCAGAC	ATTAGAAAAA	ACTTCAAAAG	1050
V Y H S V	S C R H	K K L Q K			
D K F I	T Q S A A D	I R K N	F K S		
I S L S L S Q	L Q T L E K	T S K V			
TCTGCOCTTAG	GCCCCGAGCA	GAACCTTAGAA	ACCCATTTTA	ACTTGGCATT	1100
S A L G	P E Q N L E	T L F N	L A S		
L P A R S R	T K P Y L	T W H P			
C L R P G A	E L R N	P I L G I			
CTCAGTTTTT	TATAATAGAG	ATCAGGAGGA	GCAGGCGAAA	CGGGACAAAC	1150
S V F Y N R D	Q E E Q A K	R D K R			
Q F F I I E	I R R S	R R N G T N			
L S F L	R S G G	A G E T G Q T			
GGGATAAAAA	AAAAAGGGGG	GGTCCACTAC	TTTAGTCATG	GGCCTCAGGC	1200
D K K K R G	G P L L S W	P S G			
G I K K K G G	V H Y F S H	G P Q A			
G K K K G G	S T T L V M	A L R Q			
AAGCAGACTT	TGGAGGCTCT	GCAAAAGGGA	AAAGCTGGGC	AAATCAAATG	1250
K Q T L E A L	Q K G K A G Q	I K C			
S R L W R L C	K R E K L G	K S N A			
A D F G G S	A K G K S W A	N Q M			
OCTAATAGGG	CTGGCTTCCA	GTCGGGTCTA	CAAGGACACT	TTAAAAAGA	1300
L I G L A S S	A V Y K D T	L K K I			
G W L P	V R S T R T L	K R			
P N R A G F Q	C G L Q G H F	K K D			
TTATCCAAGT	AGAAATAAGC	CGCCCCCTTG	TCCATGCCCC	TTACGTCAAG	1350
I Q V E I S	R P L V H A P	Y V K			
L S K K A A P L	S M P L T S R				
Y P S R N K P	P P C P C P	L R Q G			
GGAATCACTG	GAAGGCCCCAC	TGCCCCAGGG	GATGAAGATA	CCTCAGATCA	1400
G I T G R P T	A P G D E D T	L S Q			
E S L E G P L	P Q G M K I	L V R			
N H W K A H	C P R G R Y	S E S			
GAAGCCATTA	ACCAGATGAT	CCAGCAGCAG	GACTGAGGGT	GGCCCCGGGG	1450
K P L T R S S S R	T E G A R G E				
S H P D D	P A A G L R V	P G A			
E A I N Q M I	Q Q Q D G C	P G R			
AGCGCCAGCC	CATGOCATCA	COCTCAGAGA	GGCCCCGGGA	TGTTTGACCA	1500
R Q P M P S	P S Q S P G Y	V P			
S A S P C H H	P H R A P G M	F D H			
A P A H A I T	L T E P R V	C L T I			



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~~FIG 6 (continued)~~

FIG 6D

10	20	30	40	50
1234567890	1234567890	1234567890	1234567890	1234567890
TTGAGAGCCA A				
L R A				1511
. E P				
E S Q				

FIG 7A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGGGCAGCA	GCCATCATCA	TCATCATCAC	AGCAGCGGCC	TGGTGGCGCG	50
M G S S	H H H	H H H	S S G L	V P R	
CGGCAGCCAT	ATGGCTAGCA	TGACTGGTGG	ACAGCAAATG	GGTGGGATCC	100
G S H	M A S M	T G G	Q Q M	G R I L	
TAGAACGTAT	TCTGGAGAAT	TGGGACCAAT	GTGACACTCA	GACGCTAAGA	150
E R I	L E N	W D Q C	D T Q	T L R	
AAGAAACGAT	TTATATTCTT	CTGCAGTACC	GCTTGGCCAC	AATATCCTCT	200
K K R F	I F F	C S T	A W P Q	Y P L	
TCAAGGGAGA	GAAACCTGGC	TTCCTGAGGG	AAGTATAAAT	TATAACATCA	250
Q G R	E T W L	P E G	S I N	Y N I I	
TCTTACAGCT	AGACCTCTTC	TGTAGAAAGG	AGGGCAAATG	GAGTGAAGTG	300
L Q L	D L F	C R K E	G K W	S E V	
CCATATGTGC	AAACTTTCTT	TTCATTAAGA	GACAACTCAC	AATTATGTAA	350
P Y V Q	T F F	S L R	D N S Q	L C K	
AAAGTGTGGT	TTATGCCCTA	CAGGAAGCCC	TCAGAGTCCA	CCTCCCTACC	400
K C G	L C P T	G S P	Q S P	P P Y P	
CCAGCGTCCC	CTCCCCGACT	CCTTCCCTCAA	CTAATAAGGA	CCCCCCTTTA	450
S V P	S P T	P S S T	N K D	P P L	
ACCCAAACGG	TCCAAAAGGA	GATAGACAAA	GGGGTAAACA	ATGAACCAAA	500
T Q T V	Q K E	I D K	G V N N	E P K	
GAGTGCCAAT	ATTCCCCGAT	TATGCCCCCT	CCAAGCAGTG	AGAGGAGGAG	550
S A N	I P R L	C P L	Q A V	R G G E	
AATTGGGCCC	AGCAGAGTG	CCTGTACCTT	TTTCTCTCTC	AGACTTAAAG	600
F G P	A R V	P V P F	S L S	D L K	
CAAATTAAAA	TAGACCTAGG	TAAATTCTCA	GATAACCTTG	ACGGCTATAT	650
Q I K I	D L G	K F S	D N P D	G Y I	
TGATGTTTAA	CAAGGGTETAG	GACAATCCTT	TGATCTGACA	TGGAGAGATA	700
D V L	Q G L G	Q S F	D L T	W R D I	
TAATGTTACT	ACTAAATCAG	ACACTAACC	CAAATGAGAG	AAGTGGCGCT	750
M L L	L N Q	T L T P	N E R	S A A	
GTAAGTGCAG	CCCGACAGTT	TGGCGATCTT	TGGTATCTCA	GTGAGGCCAA	800
V T A A	R E F	G D L	W Y L S	Q A N	

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
CAATAGGATG	ACAACAGAGG	AAAGAACAAC	TCCACAGGC	CAGCAGGCAG	850
N R M	T T E E	R T T	P T G	Q Q A V	
TTCCAGTGT	AGACCCTCAT	TGGACACAG	AATCAGAACA	TGGAGATTGG	900
P S V	D P H	W D T E	S E H	G D W	
TGCCACAAAC	ATTGCTAAC	TTGGGTGCTA	GAAGGACTGA	GGAAACTAG	950
C H K H	L L T	C V L	E G L R	K T R	
GAAGAAGCCT	ATGAATTACT	CAATGATGTC	CACTATAACA	CAGGGAAAGG	1000
K K P	M N Y S	M M S	T I T	Q G K E	
AAGAAAATCT	TACTGCTTTT	CTGGACAGAC	TAAGGGAGGC	ATTGAGGAAG	1050
E N L	T A F	L D R L	R E A	L R K	
CATACCTCCC	TGTCACCTGA	CCTATTGAA	GCCCAACTAA	TCTTAAAGGA	1100
H T S L	S P D	S I E	G Q L I	L K D	
TAAGTTTATC	ACTCAGTCAG	CTGCAGACAT	TAGAAAAAAC	TTCAAAAGTC	1150
K F I	T Q S A	A D I	R K N	F K S L	
TGCTAAGCT	TGCGGCGGCA	CTCGAGCACC	ACCAACCACCA	CCACTGAGAT	1200
P K L	A A A	L E H H	H H H	H . D	
CCGGCTGCTA	ACAAAGCCCG	AAAGGAAGCT	GAGTTGGCTN	GTGGCNA	1247
P A A N	K A R	K E A	E L A X	G	

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FIG 8A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGGCTAGCA	TGACTGGTGG	ACAGCAAATG	GGTCGGATCC	TAGAACGTAT	50
M A S M	T G G	Q Q M	G R I L	E R I	
TCTGGAGAAT	TGGACCAAT	GTGACACTCA	GACGCTAAGA	AAGAAACGAT	100
L E N	W D Q C	D T Q	T L R	K K R F	
TTATATTCTT	CTGCAGTACC	GCCTGGCCAC	AATATCCTCT	TCAAGGGAGA	150
I F F	C S T	A W P Q	Y P L	Q G R	
GAAACCTGGC	TTCCTGAGGG	AAGTATAAAT	TATAACATCA	TCTTACAGCT	200
E T W L	P E G	S I N	Y N I I	L Q L	
AGACCTCTTC	TGTAGAAAGG	AGGGCAAATG	GAGTGAAGTG	CCATATGTGC	250
D L F	C R K E	G K W	S E V	P Y V Q	
AAACTTTCTT	TTCATTAAGA	GACAATCACC	AATTATGTAA	AAAGTGTGGT	300
T F F	S L R	D N S Q	L C K	K C G	
TTATGCCCTA	CAGGAAGCCC	TCAGAGTCCA	CCTCCTTACC	CCAGGGTCCC	350
L C P T	G S P	Q S P	P P Y P	S V P	
CTCCCCGACT	CCTTCCTCAA	CTAATAAGGA	CCCCCCTTTA	ACCCAAACGG	400
S P T	P S S T	N K D	P P L	T Q T V	
TCCAAAAGGA	GATAGACAAA	GGGGTAAACA	ATGAACCAAA	GAGTGCCAAT	450
Q K E	I D K	G V N N	E P K	S A N	
ATTCCCCGAT	TATGCCCCCT	CCAAGCAGTG	AGAGGAGGAG	AATTGGGCCC	500
I P R L	C P L	Q A V	R G G E	F G P	
AGCCAGAGTG	CTGTACCTTT	TTTCTCTCTC	AGACTTAAAG	CAAATTAAAA	550
A R V	P V P F	S L S	D L K	Q I K I	
TAGAOCAGG	TAAATTCTCA	GATAAOCCTG	ACGGCTATAT	TGATGTTTAA	600
D L G	K F S	D N P D	G Y I	D V L	
CAAGGGTAG	GACAATCCTT	TGATCTGACA	TGGAGAGATA	TAATGTTACT	650
Q G L G	Q S F	D L T	W R D I	M L L	
ACTAAATCAG	ACACTAACC	CAATGAGAG	AAGTGOOGCT	GTAACGACAG	700
L N Q	T L T P	N E R	S A A	V T A A	
CCCGAGAGTT	TGGGATCTTT	TGGTATCTCA	GTCAGGCCAA	CAATAGGATG	750
R E F	G D L	W Y L S	Q A N	N R M	
ACAACAGAGG	AAAGAACAAC	TCCACAGGC	CAGCAGGCAG	TTCOCAGTGT	800
T T E E	R T T	P T G	Q Q A V	P S V	

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FIG 8 (continued)

FIG 8B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
AGACCCCTCAT	TGGGACACAG	AATCAGAACA	TGGAGATTGG	TGCCACAAAC	850
D P H	W D T E	S E H	G D W	C H K H	
ATTTCCTAAC	TTGGTGCTA	GAAGGACTGA	GGAAACTAG	GAAGAAGCCT	900
L L T	C V L	E G L R	K T R	K K P	
ATGAATTACT	CAATGATGTC	CACTATAACA	CAGGAAAGG	AAGAAATCT	950
M N Y S	M M S	T I T	Q G K E	E N L	
TACTGCTTTT	CTGGACAGAC	TAAGGGAGGC	ATTGAGGAAG	CATACCTCCC	1000
T A F	L D R L	R E A	L R K	H T S L	
TGTCACCTGA	CTCTATTGAA	GGCCAACTAA	TCTTAAAGGA	TAAGTTTATC	1050
S P D	S I E	G Q L I	L K D	K F I	
ACTCAGTCAG	CTGCAGACAT	TAGAAAAAAC	TTCAAAAGTC	TGCCTAAGCT	1100
T Q S A	A D I	R K N	F K S L	P K L	
TGGGGGCGCA	CTGAGCACC	ACCACCACCA	CCACTGAGAT	CCGGCTGCTA	1150
A A A	L E H H	H H H	H . D	P A A N	
ACAAAGCCCC	AAAGGAAGCT	GAGTTGGCTG	GTTGGCA		1186
K A R	K E A	E L A G	G		

## FIG 9A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TGTCGCGTGT	GCTCCTGATC	CAGCACAGGC	GCCCATTTGCC	TCCTCCCAATT	50
C P L C S . S	S T G A H C L	S Q L			
V R C A P D P	A Q A P I A	S P N W			
S A V L L I	Q H R R	P L P L P I			
GGGCTAAAGG	CTTGCCATTG	TTCTGACACA	GCTAAGTGGC	TGGGTTTCATC	100
G . R L A I V	P A Q L S A	W V H P			
A K G L P L	F L H S . V P	G F I			
G L K A C H C	S C T A K C L	G S S			
CTAATCGAGC	TGAACACTAG	TCACTGGGTT	CCACGGTTCT	CTTCCATGAC	150
N R A E H . S	L G S T V L	F H D			
L I E L N T S	H W V P R F S	S M T			
. S S . T L V	T G F H G S	L P . P			
CCATGGCTTC	TAATAGAGCT	ATAACACTCA	CTGCATGGTC	CAAGATTCCA	200
P W L L I E L .	H S L H G P	R F H			
H G F . . S Y	N T H C M V	Q D S I			
M A S N R A	I T L T A W S	K I P			
TTCTTGGAA	TCCGTGAGAC	CAAGAACCCC	AGGTCAGAGA	ACACAAGGCT	250
S L E S V R P	R T P G Q R	T Q G L			
P W N P . D	Q E P Q V R E	H K A			
F L G I R E T	K N P R S E N	T R L			
TGCCAACCATG	TTGGAAGCAG	CCCACCACCA	TTTIGGAAGC	AGCCCGCCAC	300
P P C W K Q	P T T I L E A	A R H			
C H H V G S S	P P P F W K Q	P A T			
A T M L E A A	H H H F G S	S P P L			
TATCTTGGGA	GCTCTGGGAG	CAAGGACCCC	AGGTAACAAT	TTGGTGACCA	350
Y L G S S G S	K D P R . Q F	G D H			
I L G A L G A	R T P G N N	L V T T			
S W E L W E	Q G P Q V T I	W . P			
CGAAGGGACC	TGAATCCGCA	ACCATGAAGG	GATCTCCAAA	GCAATTGGAA	400
E G T . I R N	H E G I S K	A I G N			
K G P E S A	T M K G S P K	Q L E			
R R D L N P Q	P . R D L Q S	N W K			

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~~FIG 9 (continued)~~

FIG 9B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGTTCTCTCC	CAAGGCAAAA	ATGCCCCCTAA	GATGTATTCT	GGAGAATTGG	450
V P P	K A K	M P L R	C I L	E N W	
M F L P	R Q K	C P .	D V F W	R I G	
C S S	Q G K N	A P K	M Y S	G E L G	
GACCAATTTG	ACCTTCAGAC	AGTAAGAAAA	AAATGACTTA	TATTCTTCTG	500
D Q F D	P Q T	V R K K	. L I	F F C	
T N L	T L R Q	. E K	N D L	Y S S A	
P I .	P S D	S K K K	M T Y	I L L	
CAGTACCGCC	CTGGCCACGA	TATCCTCTTC	AAGGGGGAGA	AACCTGGCCT	550
S T A	L A T I	S S S	R G R	N L A S	
V P P	W P R	Y P L Q	G G E	T W P	
Q Y R P	G H D	I L F	K G E K	P G L	
CCTGAGGGAA	GTATAAATTA	TAACACCATC	TTACAGCTAG	ACCTGTTTIG	600
. G K	Y K L	. H H L	T A R	P V L	
P E G S	I N Y	N T I	L Q L D	L F C	
L R E V	. I I	T P S	Y S .	T C F V	
TAGAAAAGGA	GGCAAATGGA	GTGAAGTGCC	ATATTACAA	ACTTCTTTT	650
. K R R	Q M E	. S A	I F T N	F L F	
R K G	G K W S	E V P	Y L Q	T F F S	
E K E	A N G	V K C H	I Y K	L S F	
CATTAAAGA	CAACTCGCAA	TTATGTTAAC	AGTGTGATTT	GIGTTCCTAC	700
I K R	Q L A I	M L T V	. F	V F L H	
L K D	N S Q	L C .	Q C D L	C S Y	
H . K T	T R N	Y V N	S V I C	V P T	
ACGGAAGCC	TCAGATTCTA	CTCCCCACCC	CCGGCATCTC	CCCTGAATCC	750
G S P	Q I L	L P T P	G I S	P E S	
T E A L	R F Y	S P P	P A S P	L N P	
R K P	S D S T	P H P	R H L	P . I P	
CTCCCCAACT	TATT				764
L P N L					
S P T Y					
P Q L I					

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FIG 10A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
TGTCGGCTGT	GCTCCTGATC	CAGCACAGGC	GCCCATTTGCC	TCTCCCAATT	50
C P L C	S . S	S T G	A H C L	S Q L	
V R C	A P D P	A Q A	P I A	S P N W	
S A V	L L I	Q H R R	P L P	L P I	
GGGCTAAAGG	CTTGCCATTG	TTCCTGCACA	GCTAAGTGCC	TGGGTTTCATC	100
G . R	L A I V	P A Q	L S A	W V H P	
A K G	L P L	F L H S	. V P	G F I	
G L K A	C H C	S C T	A K C L	G S S	
CTAATCGAGC	TGAACACTAG	TCACTGGGTT	CCACGGTTCT	CTTCCATGAC	150
N R A	E H .	S L G S	T V L	F H D	
L I E L	N T S	H W V	P R F S	S M T	
. S S	. T L V	T G F	H G S	L P . P	
CCATGGCTTC	TAATAGAGCT	ATAACACTCA	CTGCATGGTC	CAAGATTCCA	200
P W L L	I E L	. H S	L H G P	R F H	
H G F	. . S Y	N T H	C M V	Q D S I	
M A S	N R A	I T L T	A W S	K I P	
TTCCTTGGAA	TCCGTGAGAC	CAAGAACCCC	AGGTCAGAGA	ACACAAGGCT	250
S L E	S V R P	R T P	G Q R	T Q G L	
P W N	P . D	Q E P Q	V R E	H K A	
F L G I	R E T	K N P	R S E N	T R L	
TGCCACCATG	TTGGAGCAG	CCCACCAACA	TTTGTGAAGC	GGCCCCGAC	300
P P C	W K Q	P T T I	L E A	A R H	
C H H V	G S S	P P P	F W K R	P A T	
A T M	L E A A	H H H	F G S	G P P L	
TATCTTGGGA	GCTCTGGGAG	CAAGGACCCC	CAGGTAACAA	TTTGGTGACC	350
Y L G S	S G S	K D P	Q V T I	W . P	
I L G	A L G A	R T P	R . Q	F G D H	
S W E	L W E	Q G P P	G N N	L V T	
ACGAAGGGAC	CTGAATCGC	AACCATGAAG	GGATCTCCAA	AGCAATTGGA	400
R R D	L N P Q	P . R	D L Q	S N W K	
E G T	. I R	N H E G	I S K	A I G	
T K G P	E S A	T M K	G S P K	Q L E	



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~~24/32~~~~FIG 10 (continued)~~

FIG 10B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
AATGTTCCCTC	CCAAGGCCAAA	AATGCCCCCTA	AGATGTATTC	TGGAGAATTG	450
C S S	Q G K	N A P K	M Y S	G E L	
N V P P	K A K	M P L	R C I L	E N W	
M F L	P R Q K	C P .	D V F	W R I G	
GGACCAATCT	GACCTCAGA	CAGTAAGAAA	AAAAATGACT	TATATTCTTC	500
G P I .	P S D	S K K	K N D L	Y S S	
D Q S	D P Q T	V R K	K M T	Y I L L	
T N L	T L R	Q .	E K K .	L I F F	
TGCAGTACCG	CCTGGCCACG	GATATCCTCT	TCAAGGGGGA	GAAACCTGGC	550
A V P	P G H G	Y P L	Q G G	E T W P	
Q Y R	L A T	D I L F	K G E	K P G	
C S T A	W P R	I S S	S R G R	N L A	
CTCCTGAGGG	AAGTATAAAT	TATAACACCA	TCTTACAGCT	AGACCTGTTT	600
P E G	S I N	Y N T I	L Q L	D L F	
L L R E	V .	I I T P	S Y S .	T C F	
S .	G K Y K L	. H H	L T A	R P V L	
TGTAGAAAAG	GAGGCAAATG	GAGTGAAGTG	CCATATTTAC	AAACTTTCTT	650
C R K G	G K W	S E V	P Y L Q	T F F	
V E K	E A N G	V K C	H I Y	K L S F	
. K R	R Q M E .	S A	I F T	N F L	
TTCATTAAAA	GACAACTCGC	AATTATGTAA	ACAGTGTGAT	TTGTGTCTTA	700
S L K	D N S Q	L C K	Q C D	L C P T	
H .	K T T R	N Y V N	S V I	C V L	
F I K R	Q L A	I M .	T V .	F V S Y	
CAGGAAGCCC	TCAGATCTAC	CTCCTTACCC	CGGCATCTCC	CTGACTCCTT	750
G S P	Q I Y	L P T P	A S P .	L L	
Q E A L	R S T	S L P	R H L P	D S F	
R K P	S D L P	P Y P	G I S	L T P S	
CCCCAACTAA	TAAGGACCCA	CTTCAGCCCA	AACAGTCCAA	AAGGACATAG	800
P Q L I	R T H	F S P	N S P K	G H	
P N . .	G P T	S A Q	T V Q	K D I	
P T N	K D P	L Q P K	Q S K	R T .	

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FIG 11A

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
GGCATTGATA	GCACCCATCA	GATGGCCAAA	TCATTATTTA	CTGGACCAGG	50
G I D S	T H Q	M A K	S L F T	G P G	
A L I	A P I R	W P N	H Y L	L D Q A	
H . .	H P S	D G Q I	I I Y	W T R	
CCTTTTCAAA	ACTATCAAGC	AGATAGGGCC	CGTGAAGCAT	GCCAAAGAAA	100
L F K	T I K Q	I G P	V K H	A K E I	
F S K	L S S R	. G P	. S M	P K K	
P F Q N	Y Q A	D R A	R E A C	Q R N	
TAATCCCTTG	CCTTATCGCC	ATGTTCTTTC	AGGAGAACAA	AGAACAGGCC	150
I P C	L I A	M F L Q	E N K	E Q A	
. S P A	L S P	C S F	R R T K	N R P	
N P L	P Y R H	V P S	G E Q	R T G H	
ATTACCCAGG	GGAAGACTGG	CAACTAGATT	TTACCCACAT	GGCCAAATGT	200
I T Q G	K T G N	. I	L P T W	P N V	
L P R	G R L A	T R F	Y P H	G Q M S	
Y P G	E D W	Q L D F	T H M	A K C	
CAGGGATTTC	AGCATCTACT	AGTCTGGGCA	GATACTTTCA	CTGGTTGGGT	250
R D F	S I Y .	S G Q	I L S	L V G W	
G I S	A S T	S L G R	Y F H	W L G	
Q G F Q	H L L	V W A	D T F T	G W V	
GGAGTCTTCT	CCTTGTAGGA	CAGAAAAGAC	CCAAGAGGTA	ATAAAGGCAC	300
S L L	L V G	Q K R P	K R .	. R H	
G V F S	L .	D R K D	P R G N	K G T	
E S S	P C R T	E K T	Q E V	I K A L	
TAATGAAATA	ATTCCCAAGAT	TTGGACTTCC	CCCAGGATTA	CAGGGTGACA	350
. . N N	S Q I	W T S	P R I T	G . Q	
N E I	I P R F	G L P	P G L	Q G D N	
M K .	F P D	L D F P	Q D Y	R V T	

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~~FIG 11~~ (continued)

FIG 11B

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATGGCCCCGC	TTTCAAGGCT	GCAGTAAACC	AGGGAGTATC	CCAGGTGTTA	400
W P R	F Q G C	S N P	G S I	P G V R	
G P A	F K A	A V T Q	G V S	Q V L	
M A P L	S R L	Q .	P R E Y P	R C .	
GGCATACAAT	ATCACTTACA	CTGTGCTTGG	AGGCCACAAT	CCTCCAGAAA	450
H T I	S L T	L C L E	A T I	L Q K	
G I Q Y	H L H	C A W	R P Q S	S R K	
A Y N	I T Y T	V P G	G H N	P P E K	
AGTCAAGAAA	ATGAATGAAA	CACTCAAAGA	TCTAAAAAAG	CTAACCCAAG	500
S Q E N	E . N	T Q R	S K K A	N P R	
V K K	M N E T	L K D	L K K	L T Q E	
S R K	. M K	H S K I	. K S	. P K	
AAACCCACAT	TGCATGACCT	GTTCGTGTGC	CTATAACCTT	ACTAAGAATC	550
N P H	C M T C	S V A	Y N L	T K N P	
T H I	A . P	V L L P	I T L	L R I	
K P T L	H D L	F C C	L .	P Y . E S	
CATAACTATC	CCCCAAAAG	CAGGACTTAG	CCCATACGAG	ATGCTATATG	600
. L S	P K K	Q D L A	H T R	C Y M	
H N Y P	P K S	R T .	P I R D	A I W	
I T I	P Q K A	G L S	P Y E	M L Y G	
GATGGCCTTT	CCTAACCAAT	GACCTTGTGC	TTGA CTGAGA	AATGCCCAAC	650
D G L S	. P M	T L C	L T E K	W P T	
M A F	P N Q .	P C A	. L R	N G Q L	
W P F	L T N	D L V L	D .	E M A N	
TTAGTTGCAG	ACATCACCTC	CTTAGCCAAA	TATCAACAAG	TTCTTAAAC	700
. L Q	T S P P	. P N	I N K	F L K H	
S C R	H H L	L S Q I	S T S	S . N	
L V A D	I T S	L A K	Y Q Q V	L K T	

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FIG 11 (continued)

FIG 11C

10	20	30	40	50	
1234567890	1234567890	1234567890	1234567890	1234567890	
ATCACAGGGA	ACCTGTCCCC	GAGAGGAGGG	AAAGGAACTA	TTCCACCCTG	750
H R E	P V P	E R R E	R N Y	S T L	
I T G N	L S P	R G G	K G T I	P P W	
S Q G	T C P R	E E G	K E L	F H P G	

GTGACATG

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V T

. H

D M

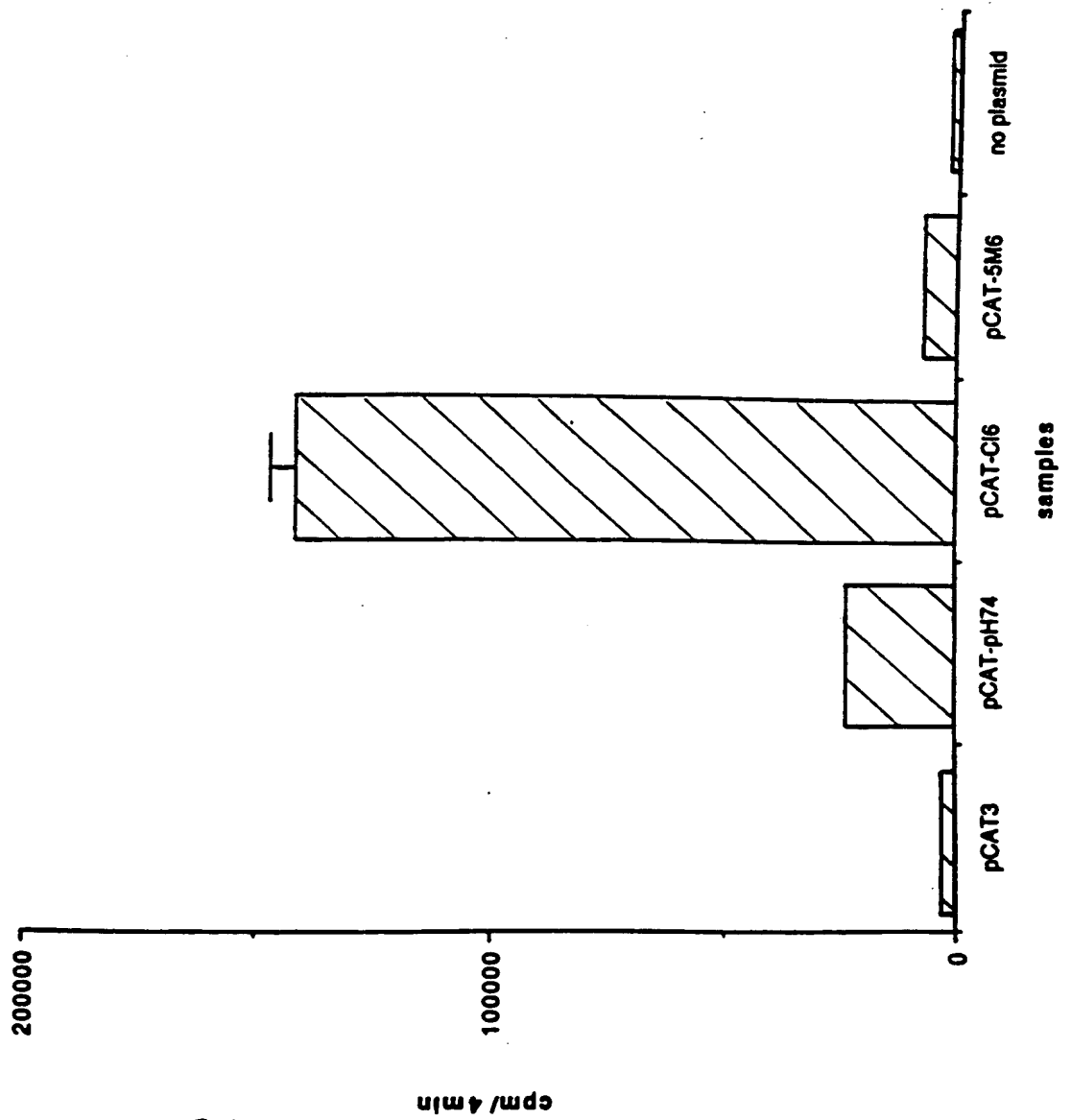


FIG12

FIG13

ATGGCCCTCC CTATCATAC TTTCCTCTCT ACTCTCTCT TACCCTCTT CCTCTCACT GCACCCCTC CATCTCTCTG TACACCACT AGCTCCCTT  
M A L P Y H T P L P T V L L P P P A L T A P P P C C T T T S S P Y  
100 34  
ACCAAGATT TCTATGAGA ACCGCTCTC CTGGAAATAT TCAATGCCCA TCATATAGA GTTATCTAA GCGAACTCC ACTCTCACTG CCGACACCA  
Q E P L . R T R L P Q N I D A P S Y R S L S K O N S T P T A N T N  
200 67  
TATGCCCGC AKCTCTTAA ACTCTGCCAC TCTTTCATG CATGAAAT CTATATATG GACAGGAAA ATGATTAATC CTATCTCTG TCGAGCACTT  
N P R M C Y M S A T L C M H A N T H Y M T O K M I N P S C P O O L  
300 100  
GAGCCACTG TCTCTTGGAC TTACTTCAAC CATACCAATA TCTCTCATG GGTGCAAT CAGCTCTGAG CAGAGGAAA ACAAGTAAAG GAGCAACTT  
G A T V C M T Y P T N T S M S D G G I Q O O A R E K Q V K E A I S  
400 134  
CCCACTGAC CCGGGAATP AGGACCCCTA GCGCTTACAA AGCACTAGTT CTCTCAAAAC CCTCTGACC CATCTCTGCG TCTGAGCTT  
Q L T R G H S T P S P Y K G L V L S K L H E T L R T H T R L V S L  
500 167  
ATTATTAAC ACCCTCACTC GGTCTCAAGA GGTCTGACC GAAACCCCTA CTACTCTTGG GATCTCTCT CCGCTCACT TCAAGCAATA CATTTCAATC  
P N T T L T R L M E V S A Q N P T N C W M C L P L H P R P Y I S I  
600 200  
CCTCTCTCTG AACATGGA CAATCTGAC ACAGAAATA ACACCACTTC CGTTTATGA GAATCTCTG TTTCCTATCT GGAATTAAGC CATACTCAAA  
P V P E Q W M N P S T E I N T T S V L V O P L V S N L E I T H T S N  
700 234  
ACCTCACTG TGTAAATP AGCAATACTA TAGACACAC CAGCTGCCAA TGCATCAAGT GGTAAACACC TCCACACCA ATAGCTCTCC TACCCTGAGG  
L C V K P S N T I D T T S S O C I R M V T P P P T R I V C L P S O  
800 267  
AATATTTT GCTCTGCTA CCACTGCTA TCTATCTT GAGGCTCT CAGATCAT GTCTCTCTCTG TCGCTCTAT GACCATCTAC  
I F P V C G T S A Y H C L N G S S E S H C F L S F L V P P P M T I Y  
900 300  
ACTGACACAG ATTATTAACA TCACTGCTA CCAAGCCG ACACAAAG AGTACCCTT CTCTCTCTG TTATCAACA AGAATGCTA GCAACTAG  
T E Q D L Y M H V V P K P H N K R V P I L P F V I R A O V L G R L G  
1000 334  
GTACTGCAT TGCATATC ACACCTCTA CTCACTTCTA CTCAAACTA TCTCAAGAA TAAATGTGA CATGGAACAG GTCTCTGACT CCGCTGCTAC  
T O I G S I T T S T Q F Y Y K L S Q E I N G D H E Q V T D S L V T  
1100 367  
CTTCAGAT CAATTAAT CCGTACAGC AGTAGCTCT CAATGCTA GAGCTTACA CTCTCTACCC GCAAAAGAG GCGAACTG TTATTTTA  
L Q D Q L N S L A A V V L Q N R R A L D L L T A K R O G T C L P L  
1200 400  
GAGAGAC GCTGTATTA TGTATTAACA TCGAAATG TCACTGAGA AGTTAAGA ATTGAGATC GAATCAATG TAGACAGAG GAGCTCAAA  
G E E R C Y Y V N U S N I V T E K V K E I R D R I O C R A E E L Q N  
1300 434  
ACACGAAG CTGGGCTC CTCAGCAAT GATCTCTG GGTCTCTG TTCTTAGAC CTCTAGGAG TCTATATG TTACTCTCT TTGGACCTG  
T E R W O L L S Q W M P W V L P F L G P L A A L I L L L L P O P C  
1400 467  
TATTTTAC CTCTCTGTA AGTTCTCT TCCAGAT TGAAGTAA AGCTACAGAT GTCTTACAA ATGCAACCC AGATGAGATC CATGACTAAG  
I F N L L V K F V S S R I E A V K L Q M V L Q M E P Q M E S M T K  
1500 500  
ATCCACCTG GACCCCTGA CCGCTCTG ACCCTCTG CCGATGTTA TCACTTAA GGCACCCCTC CCGAGGAAT CTCACTGCA CACCCCTAC  
I H R Q P L D R P A S P C S D V N D I E G T P P E I S T A Q P L L  
1600 534  
TATGCCCA TCAAGGGA AGCACTAG CCGTATCA GCAACCTC CCAACAGAC TTGGTTTTT CTCTTGAGAG GCGGACTCA GAGACAGAC  
C P N S A O S S  
1700 542  
TAGTGCAT TCTAGGCA ACAGAAAT CTAAGCTA GCTGGAGG TGAATCAT CACTCTAA CATGGCTT GCACCTIAC TCACACCGA  
1800  
CCATACAG ACTCACTAA AATCTAAT AGGCAAAAT AGAGTAA GAATAGCA ATCATTAAT GCTCTAGAC ACAGCGAG GACACAGAT  
1900  
CGGATATA ACCAGCAT TCAAGCCG ACAGCACT CCGTTGGT CCGCTCTCT TGTATGCGG CTCTGTTTT ACTCTATT ACTCTATTAA  
2000  
AATCTGAC TGAAGAAA AAAAAAAA Poly A signal  
2010  
Cap site

# FIG 14

CAGCAACCCC CTTGGGGTCC CTTCCCAATG TATGGAGCT CTGTTTTCAC TCTATTTCAC TCTATTTCAC CATGCAACTG CACTCTCTCTG GTCCGTGTTT  
 TTATGGCTC AAGCTGAGCT TTGTTTGGCC ATCCACCACT GCTGTTTGGC ACCGTCACAG ACCCGTGTCT GACTTCCATC CCITTGGATC CAGCAGAGTG  
 TCCGCTGTGC TCCTGATCCA GCACAGGGGC CCATTGCTTC TCCCAATTGG GCTAAAGGCT TGCCATTGTT CCTGCACAGC TAAGTGCCTG GGTTCATCCT  
 AATCGAGCTG AACACTAGTC ACTGGGTCC ACCTGTTCTT TCCATGACCC ATGCTCTCTA ATAGAGCTAT AACACTCACT GCATGGTCCA AGATTCCATT  
 CCTTGAATC CGTGAGACCA AGAACCCCGC GTCAAGAGAC ACAAGGCTTG CCACCATGTT GGAAGCAGCC CACCACCATT TTGGAAGCAG CCGGCCACTA  
 TCTTGGAGC TCTGGGAGCA AGGACCCCGC GTACACATTT GTGACCCAGC AAGGACCTG AATCCGCAAC CATGAAGGGA TCTCCAAAGC ATGCGGAAC  
 GTTCCCCCG AGSCAAAAT GCCCCTAGAA CGTATTCTGG AGAATTGGGA CCATGTGAC ACTCAGAGCC TAAGAAGAA AGATTATATA TTCTTCTGCA  
 V P P E A K M P L E R I L E N W D Q C D T Q T L R K K R F I F C S  
 GTACCGCCTG GCCACAAAT CTTCTTCAAG GGAGAGAAC CTGGCTTCTT GAGGAAGTA TAAATTATAA CATCATCTTA CAGCTAGACC TCTTCTGTAG  
 T A W P Q Y P L Q G R E T W L P E G S I N Y N I I L Q L D L F C R  
 AAGGAGGC AATGGAGTG AAGTGCCATA TGTGCAACT TCTTTTTCAT TAAGAGACAA CTCACAATTA TGTAAAAAGT GTGTTTATG CCTACAGGA  
 K E G K W S E V P Y V Q T F F S L R D N S Q L C K K C G L C P T G  
 AGCCTCAGA GTCCACCTCC CTACCCCGC GTCCCTTCC CGACTCTTCT CTAACCTAT AAGGACCCCT CTTTACCCCA AAGGTGCCAA AAGGAGATAG  
 S P Q S P P P Y P S V P S P T P S S T N K D P P L T Q T V Q K E I D  
 ACAAGGGGT AACCAATGAA CCAAGAGTG CCAATATTC CCGATTATGC CCCCTCCAAG CAGTGAGAGG AGGAGATTC GGCCAGGCCA GAGTGCCTGT  
 K G V N N E P K S A N I P R L C P L Q A V R G G E F G P A R V P V  
 ACCTTTCT CTCTCAGACT TAAAGCAAT TAAATAGAC CTAGTAAAT TCTCAGATTA CCCTGAGGC TATATTGATG TTTTACAGG GTTAGGACAA  
 P F S L S D L K Q I K I D L G K F S D N P D G Y I D V L Q G L G Q  
 TCTTTGATC TGACATGGAG AGATATAATG TTACTACTAA ATCCCAACT GAGAGAAGTG CCGCTGTAAAC TGACGCCCGA GAGTTTGGC  
 S F D L T W R D I M L L L N Q T L T P N E R S A A V T A A R E F G D  
 ATCTTTGGTA TCTCAGTCAG GCCAACATA GGATGACAC AGAGGAAGA ACACTCCCA CAGGCCAGCA GGCAGTTCCC AGTGTAGACC CTCATTGGGA  
 L W Y L S Q A N N R M T T E E R T T P T G Q Q A V P S V D P H W D  
 CACAGATCA GAACATGGAG ATTGGTGCCA CAACATTTG CTAACTTGG TGCTAGAAGG ACTGAGGAA ACTAGGAAGA AGCTATGAA TTACTCAATG  
 T E S E H G D W C H K H L L T C V L E G L R K T R K K P M N Y S M  
 ATGTCCACTA TACACAGGG AAGGAAGAA AATCTTACTG CTTTCTGGA CAGACTAAGG GAGGCATTGA GGAAGCATAC CTCCCTGTCA CCTGACTCTA  
 M S T I T Q G K E E N L T A F L D E L R E A L R K H T  
 TTGAAGGCA ACTAATCTTA AAGGATAAGT TTACTACTA GTCAGTGCA GACATTAGAA AAAACTTCA AAGTCCGTC TTAGGCTCGG AACAAACTT  
 E G Q L I L K D K F I T Q S A A D I R K K L Q K S V L G S E Q N L  
 AGAACCCCTA TTGAACCTGG CAACCTCGGT TTTTATAT AGAGATCAGG AGGAGCAGG AGNAGGAC AATGGGATA AAAAAAAG GGCCACCGCT  
 E T L L N L A T S V F Y N R D Q E E Q A E W D K W D K K K R A T A  
 TTAGTCATGG CCTCAGGCA AGCGACTTT GGAGCTCTG GAAAGGGAA AAGCTGGCA AATAGGAGC CTAATAGGC TTGCTTCCAG TCGGTCTAC  
 L V M A L R Q A D P G G S G K G K S W / A N R K P N R A C F Q G L Q  
 AAGGACCTT TAAAGAAT TGTCCAAATA GAAATAGCC GCGCCCTTGT CCATGCCCT TAGCTCAAG GAATCACTGG AAGGCCACT GCCCAGGG  
 G H F K K D C P N R N K P P P C / R P C P L R Q G N / H W K A H C P R G  
 ATCAAGATAC TCTGATCAG AAGCCATTA CCAGATGATC CAGCAGCAG ACTGA  
 S R Y S E S E A I N Q M I Q Q Q D

u5

gag

PBS

21/32  
30/32

PCR98/01460

WO 99/0266

FIG 15

GGACCCGTAG TATGGGTAA TCCCTCCGG GAAACCAAGC CCCAGTACTC AGAAGAGAA ATAGATGGG GAACCTCAGG AGGACATGOT TTCTCCCTCT  
 100  
 GIPVVWGNPLRETKPQYSEEEIEWGTSRGHGF LPS  
 34  
 CAGGATGGCT AGCCACTGAA GAAGGAAJAA TACTTTTCT GGCAGCTAAC CAATGGAAT TACTTAAAC CTTTACGAA ACCTTCCACT TAGGCATTGA  
 200  
 G W L A T E E G K I L L L A A N Q W K L L K T L Q Q T P L L G I D  
 67  
 TAGCACCAT CAGATAGCCA AATCATATT TACTGACCA GGCCTTTCA AACATACAA GCAGATAGTC AGGCTCTGT AGCTCTGCCA AGGAATAT  
 300  
 S T Q I A K S L P T G P G L P K T I K Q I V R A E V Q R M N  
 100  
 CCCCTGCCT ATGCCAAGC TCCTTCAGGA GAACAAAGAA CAGGCAATTA CCCAAGAGAA GACTGGCAAC TAGATTATAT CCACATGCCA AATCAGCAGG  
 400  
 P L P Y R Q A P S G E Q R T G N Y P R E D W Q L D P I H M P K S Q G  
 134  
 GATTTCAGTG TCTACTAGTC TGGTAGATA CTTTCACTGG TTGGGCAGAG GCCTTCCCT GTAGGACAGA AAGTTTCCA GAGGTATTA AGGCACTAGT  
 500  
 F Q C L L W V D T F T G W A E A P P C R T E K F Q E V I K A L V  
 167  
 TCATGAAGTA ATTCCAGAT TGGACTTCC CTGAGGCTTA CAGAGTGACA ATGTCTCTGC TTTCAGGCCC ACAGTAAGCC AGGGAGTATC CCAGGCTTA  
 600  
 H E V I P R P G L P G L Q S D N G P A F K A T V T Q G V S Q A L  
 200  
 GGTATAGAA ATCACTTACA CTGCACCTAG AGGCACAAAT CCTCAGGGA GGTTCAGAA ATGAACAC TCAACGACA TCTAACAAAG CTAAACCCAGG  
 700  
 Q I E Y H L H C T . R P Q S S G K V E K M K T L K R H L N K L T Q E  
 234  
 AATCCACTT GGCATGGTCT CTTCTGTCT CTATAGCCTT ACTAAGATC CAAACTCTC CCCAAAGGC AGGACTTAGC CCATACAGAA TCTCTATAGG  
 800  
 T H L A W S A L L S I A L L R I Q N S P Q K A G L S P Y R M L Y G  
 267  
 AGGTCTCTC CTAAACCAATG ACCTTCTCT TACCAAGAG ATGGCCTTCT TAGTTCAGA CATCACCTCC TTAGCCAAAT ATCAACAAAT TCTTAAACA  
 900  
 R S F L T N D L L L D Q E M A N L V A D I T S L A K Y Q Q V L K T  
 300  
 TTACAAAGAG CCTGTCCCC AGAGGAGGGA AAGAAATAT TCCACCTGG TGTATGTA TTAGTCAAGT CCCTTCCCTC TAATTCCTCA TCCCTAGACA  
 1000  
 L Q G A C P R E E G K E I F H P G V M V L V K S L P S M S P S L D T  
 334  
 CATCTGGGG AGGACCTTAC CCAGTCAATT TATCTATCCC AACTGGGTT AAGTGGCTG GAGTGGAGTC TTGATACAT CACACTCGAA TCAAACTCTG  
 1100  
 S W G G P Y P V I L S I P T A V K V A G V E S W I H H T R I K P M  
 367  
 GATACCTGGG AAGGAACCTG AATATCCAGG GGACAACTT AGCTATTCT TTAACTCTT AGAGGATCTG TCCCTCTCT TCAAGCAACA ACCCTGA  
 1197  
 I L P K E P E N P G D N A S Y F F E P L E D L C L L P K Q Q P  
 398



FIG 16

100 GAGAGGCA GATAGAGG GAGAGGAG AGAGAGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 ENSSISWLA E V G K D S K K . R K K G E S Q R K K K R E E E T  
 200 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 K K N L K R E R S S K E K T V Y P I P L K A R V N F C L P S Q G I  
 300 XCTCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 F P L C G T S T Y I C L P T N W T G T R T L V F L S P N I N I A P  
 400 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 G N Q T L L V P V K A K V R Q C R A I Q L I S L F I G L G M A T A T  
 500 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 G T G I A G L S T S L S Y Y H T L S K N F S D S L Q E I M K S I L  
 600 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 T L Q S Q L D S L A A H T L Q N R R G P H L L T A F K G G L C T P  
 700 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 L G E C C F Y T N Q S G I V R D A T W H L Q E R A S D I R Q C L S  
 800 GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 N S Y T N L W S W A T W L L P F L G P H A A I L L L L T F G P C I  
 900 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 F K L L V K F V S S R I E A I K L Q H V L Q M E P Q M S S T N N F  
 1000 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 Y Q G P L E R S T G T S T S L E I P L W K T L Q L Q G P F F A P I Q  
 1100 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 Q E V A R A V I G Q I P N S S W G V L F R G G I E E . A C W Q P  
 1200 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 H S P R W I S V P P Q P W C P L W P C L R S P S A C H C T V G A S  
 1300 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 F W A G Q G R S Q L P Q L A G R Y G G R D A G G N Q G C A W R L R A  
 1400 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 S H S S R W A W A R R A P H S O S E G L S T W A R Q H L C S T S S  
 1500 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 L G L S C L P R G A G L R E H A A C P C L S P P P R R G F L H S P  
 1600 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 S F P D K H H P L S T V P S P I N H P R V E E C G H T A R D W Q A V  
 1700 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 P L A A L V R D P L R E A S W A P E S G G D L E N L Y V L R D C  
 TACTCTCA TCCCTCTCT GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA GAGAGGCA  
 K Y T N Q H